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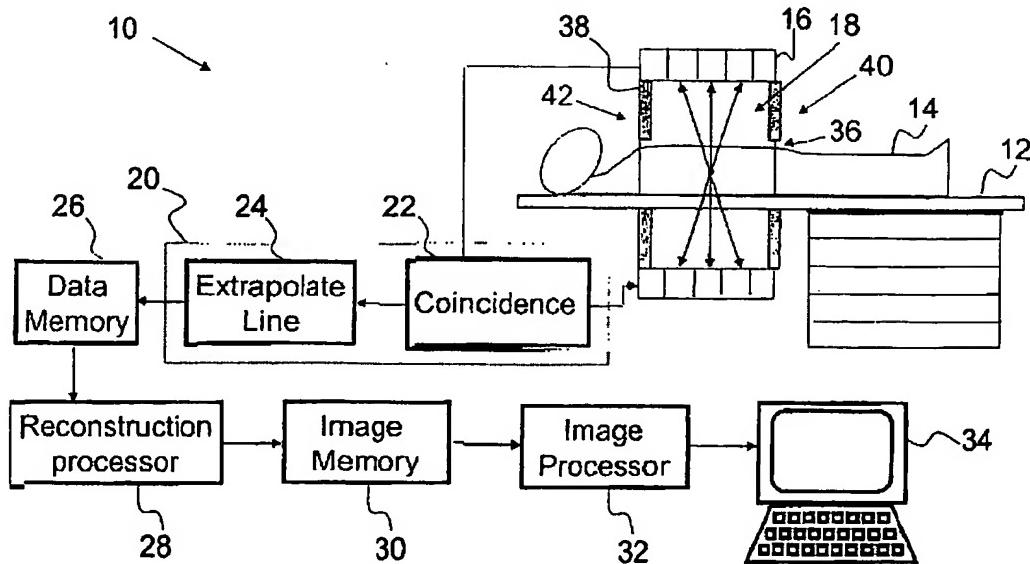
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*[Continued on next page]*

(54) Title: IMAGING SYSTEM WITH NON-CIRCULAR PATIENT APERTURE



(57) Abstract: A radiographic imaging system (10) includes an array of detectors (16) arranged around a circular bore (18). A subject (14) is injected with a radioisotope. The subject (14), supported by a subject support means (12), is to be placed into the bore (18) for an examination. A fixed, non-circular shield (38) is rigidly mounted to one of an entrance (40) and an exit (42) of the bore (18) to prevent emission radiation originating outside of the bore (18) to reach the radiation detectors (16). The shield (38) extends from an outer periphery of the bore (18) toward and surrounding a central axis of the bore (18) and defines a fixed, non-circular subject receiving aperture (36). The shield (38) is tailored to a contour of the subject support means (12) and the subject (14) to permit the subject of a maximum girth to be received in the fixed, non-circular aperture (36).

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